

## ITS PROJECT APPLICATION FORM FY 2009-2013 TIP

**General Instructions:** This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2009-2013 MAG Transportation Improvement Program. Currently funding is available only for **FY 2013**.

Separate application forms are available for bicycle, pedestrian, air quality, and transit projects. Freeway, street and rail transit projects will be programmed in a separate process.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section is used to collect information requested by the MAG ITS Committee. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding. **PLEASE NOTE: Part C is only available electronically.** It is available at: <http://www.mag.maricopa.gov/project.cms?item=413>, or you can contact Leo Luo: [lluo@mag.maricopa.gov](mailto:lluo@mag.maricopa.gov), and he will send you the electronic file.

**Deadlines and Transmittal Instructions:** All sections should be completed and returned to MAG Offices by **5:00 p.m. September 7, 2007**. Please e-mail Judy Tadlock at MAG, [jtadlock@mag.maricopa.gov](mailto:jtadlock@mag.maricopa.gov) this application (Part A & B). Part C is only available electronically as noted above. Please e-mail Leo Luo the completed Part C, excel file to [lluo@mag.maricopa.gov](mailto:lluo@mag.maricopa.gov). The mailing address and FAX number for the MAG offices is:

ATTN: Judy Tadlock  
Maricopa Association of Governments  
302 North 1<sup>st</sup> Avenue, Suite 300  
Phoenix, Arizona 85003  
FAX Number: (602) 254-6490

**Electronic Download Information:** A downloadable version of these forms in Microsoft Word is available on the MAG website at <http://www.mag.maricopa.gov/project.cms?item=413>. If requested, MAG staff will also provide these forms via e-mail or FAX.

**MAG Contact Information:** If you have any questions, please contact Stephen Tate or Eileen Yazzie at (602) 254-6300 or at [state@mag.maricopa.gov](mailto:state@mag.maricopa.gov).

**Agency Contact Information:** Please complete the following contact information for each project, so that we may contact you should we need additional information.

1. Name of the Agency Contact for the Project Request:  <b>City of Surprise</b>	2. Telephone:  <b>623-222-3400</b>
3. E-mail  <a href="mailto:robert.maki@surpriseaz.com">robert.maki@surpriseaz.com</a>	4. Date:  <b>09/06/2007</b>

## ITS PROJECT APPLICATION FORM – FY 2009-2013 TIP

### Part A: Project TIP Listing Information and Description

#### Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

**City of Surprise**

2. Year (Please check box):

☒ FY 2013

3. Project Location (The project limits if applicable):

**Cotton Lane From Peoria Ave to Bell Rd.**

4. Type of Work (Description of the work to be performed):

**Optical Fiber interconnect of signals, TV cameras, dynamic message signs, and connection to ITS Fiber Backbone**

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

**\$1,000,000**

6. Type of Federal Funds Requested (Please check box.):

☐ MAG STP

☒ CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

**\$1,500,000**

8. Type of Local Funds to be Used: (Please check only one box.):

☐ HURF

☒ Impact Fees

☐ General Fund

☐ Bond Proceeds

☐ Sales Tax

☐ Private

☐ Property Tax

☐ Other, Please specify: \_\_\_\_\_

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

**\$2,500,000**

10. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.

## ITS PROJECT APPLICATION FORM – FY 2009-2013 TIP

### Part B: CMS and CMAQ Data

**General Instructions:** In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

#### Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type:  <b>14000</b>	2. Name of the Roadway Section Used for the ADT Estimate:  <b>Cotton Ln N of Surprise Farms Loop North</b>	3. Type of Facility to be Improved (Check only <u>one</u> box):  <input checked="" type="checkbox"/> Arterial > 4 legs (e.g. Grand) <input type="checkbox"/> Arterial Street <input type="checkbox"/> Collector Street <input type="checkbox"/> Other
4. Number of <b>Through</b> Lanes Currently on the Facility Prior to Project Completion (Do <u>not</u> include right, left or center turn lanes):  <b>2</b>	5. Number of <b>Through</b> Lanes on the Facility After the Project is Completed (Do <u>not</u> include auxiliary lanes):  <b>6</b>	6. Length of the Facility (in miles):  <b>4</b>
7. Township Coordinate of the Midpoint of the Facility:  <b>T3N</b>	8. Range Coordinate of the Midpoint of the Facility:  <b>R2W</b>	9. Section Coordinate of the Midpoint of the Facility:  <b>13 &amp; 14</b>

10. If the project improves traffic signal coordination, please do the following:
- a. Enter the pre-improvement (current) traffic speed of the traffic corridor: **35**
  - b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
<input type="checkbox"/> Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
<input type="checkbox"/> Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
<input checked="" type="checkbox"/> Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
<input type="checkbox"/> Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
<input type="checkbox"/> Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
<input type="checkbox"/> Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

## ITS PROJECT APPLICATION FORM – FY 2009-2013 TIP

### Part B: CMS and CMAQ Data

11. Other Project Information: (Check as many as are applicable):

- ☒ Includes Traffic Signal Improvements for a Single Agency
- ☐ Includes Traffic Signal Improvements that Apply to More than One Agency
- ☐ Includes FMS Improvements
- ☒ The Project Conforms to Local Land Use Plans
- ☐ The facility is on the adopted MAG Roads of Regional Significance Network
- ☐ Adds Traffic Signals that increase pedestrian crossing time for seniors

12. Management System (Please check only one box)

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Congestion Management System (CMS)  | <input type="checkbox"/> Safety Management System (SMS)     |
| <input type="checkbox"/> Bridge Management System (BMS)                 | <input type="checkbox"/> Intermodal Management System (IMS) |
| <input type="checkbox"/> Pavement Management System (PMS)               | <input type="checkbox"/> Other                              |
| <input type="checkbox"/> Public Transportation Management System (PTMS) |   |

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

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## Part C: MAG Technical Committee Additional Information

This section is used to collect information requested by the MAG ITS Committee. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding. **Part C is only available electronically. It is available at: <http://www.mag.maricopa.gov/project.cms?item=413>, or you can contact Leo Luo: [lluo@mag.maricopa.gov](mailto:lluo@mag.maricopa.gov), and he will send you the electronic file.**

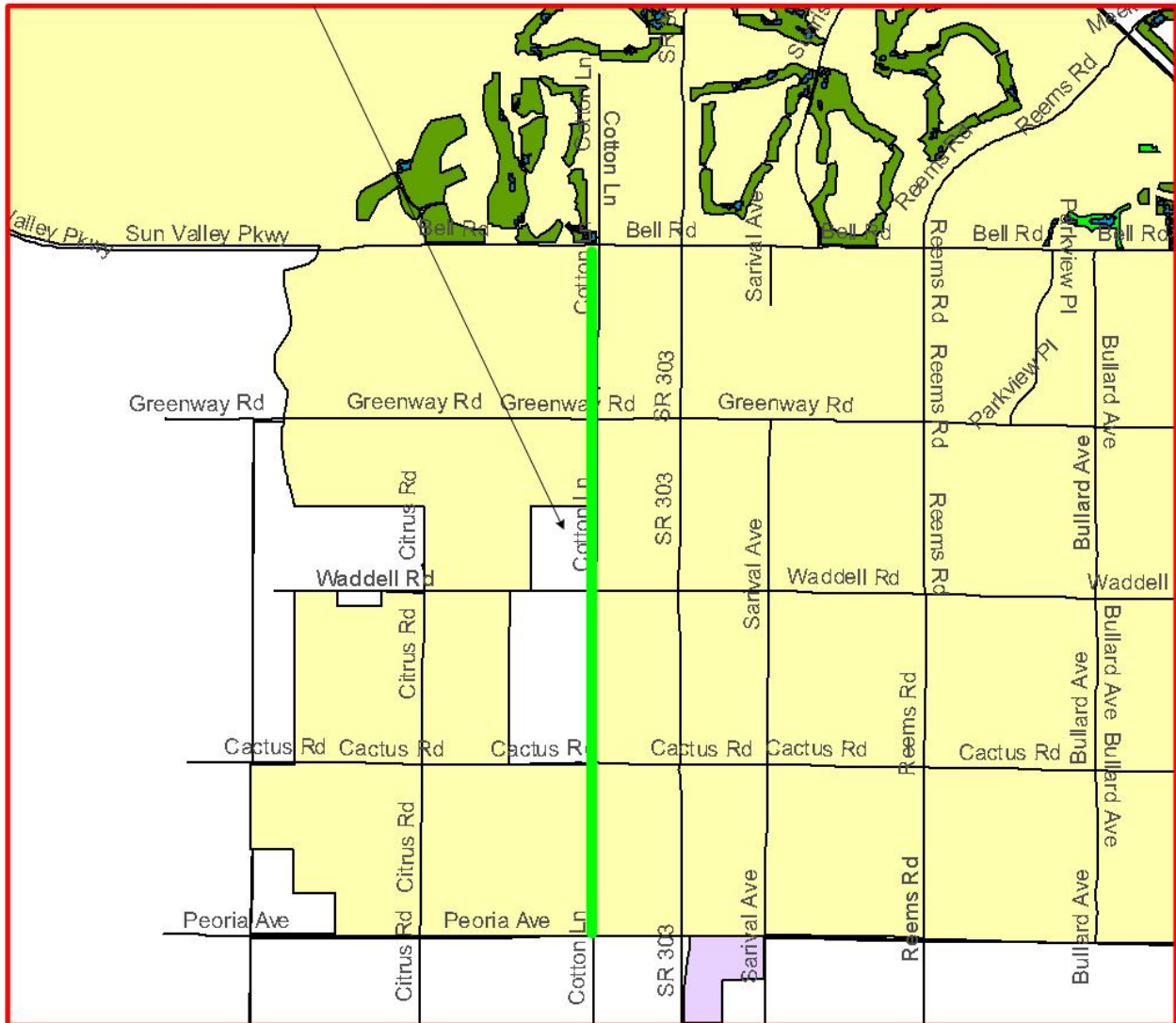
### Contact Information

Please contact Sarath Joshua or Leo Luo at (602) 254-6300 or [sjoshua@mag.maricopa.gov](mailto:sjoshua@mag.maricopa.gov), [lluo@mag.maricopa.gov](mailto:lluo@mag.maricopa.gov) for additional information or questions.

Attachment to ITS Project Form Part A, Section 2:

1. See next page.
2. The project consists of installation of fiber optic cable, remote television cameras, signal interconnect and dynamic message signs to enhance and expand the fiber interconnect to the Surprise TMC. This segment runs on Cotton Lane from the Peoria Ave. to Bell Rd. and will tie into the existing ITS infrastructure. The City of Surprise has budgeted funds for design and approximately ½ the construction cost of the project.
3. This fiber interconnect will enable ITS monitoring and traffic coordination for interfacing with the upcoming Prasada development which will be installing several traffic signals in association with the new regional shopping mall and auto mall. This is envisioned to include eventual coordination with the 303 interchanges. Furthermore, this project will serve to connect traffic signals along Cotton Lane between Peoria Ave. and Bell Road. With the anticipated growth that Prasada will bring Cotton lane and the surrounding mall areas will become a major destination from Surprise, Goodyear, Buckeye and other surrounding areas.
4. This system will provide video monitoring of significant traffic volumes in association with the new mall and 303 interchanges. Multit-model applications include monitoring and controlling planned bus transit systems and planned bus circulator routes.
5. Directly north of this corridor are the communities of Sun City Grand and Arizona Traditions. These are communities geared to the retirement and senior life style. The access to these communities is limited and mainly on Bell Road with Cotton Lane projected as a main route into the new mall area. Through this project scope. Signal system optimization will allow this project to assist these drivers.
6. The cost estimates are based on unit prices from the Bell Road ITS project from US-60/Grand Avenue to Loop 101, Bell Road Phase 1 with increases being considered based on inflation.
7. Surprise has budgeted funds for design and partial installation. The design will be completed in fiscal year 2012 and will be ready for the construction in the fiscal year 2013. All clearance will have been assured.

Project Area



**FY 2009 - 2013 TIP - Programming 2013  
MAG ITS Project Data Form**

Please enter project data **ONLY** in highlighted cells, save the file with the lead agency name in it - ie. Mesa ITS Projects.xls

Submit this Excel workbook to MAG via email to: [LLUO@MAG.MARICOPA.GOV](mailto:LLUO@MAG.MARICOPA.GOV)

Please use one worksheet per project, with the tab at the bottom indicating agency priority

Links to various websites are provided for additional information and help

The worksheet titled "Example" shows an example on how to enter Data in the highlighted areas. If errors are detected alerts will pop-up in **red text**.

The worksheet titled "HELP" shows how to figure out your project's ITS Subsystems & Architecture Flows

*Please enter required information in highlighted cells*

**A. Project Title & Sponsor**

Lead Agency	Surprise
Other Partnering Agencies	N/A
ITS Project Title:	SUR 2013: Cotton Lane Fiber Optics & ITS Equip. Peoria to Bell

**B. Project Goals & Objectives**

**Project Goals:**

Design, construct and impliment fiber oprtics, CCTV, VMS, and signal control to efficiently manage traffic conditions.

**Objectives:**

Expand the City of Surprise ITS fiber from Peoria Ave to Bell Rd, connecting to the existing fiber back bone, install VMS and CCTV Cameras and obtain control via the fiber of all the existing and future traffic signals between.

### C. Define ITS Subsystems, Achitecture Flows, Communications & Arterial ITS Applications

<b><u>SELECT ITS Subsystems:</u></b> <a href="http://www.iteris.com/itsarch/html/entity/pae">http://www.iteris.com/itsarch/html/entity/pae</a>	Yes or No					
Center Subsystem	Yes					
Traveler Subsystem	No					
Field/Roadside Subsystem	Yes					
Vehicle Subsystem	No					
Communications Subsystem	No					
<b>Architecture Flows</b> (Information flows among four subsystems: Traveler, Center, Roadside and Vehicle Subsystems)						
<b>From Subsystem</b>	<b>To Subsystem</b>	<b>Information flow</b>				
CCTV	TMC	traffic images				
Signal Controler	TMC	signal control status				
Center Subsystem-TMC	Signal Controler	signal control data				
Center Subsystem-TMC	CCTV	Camera Control				
Center Subsystem-TMC	VMS	VMS travelor Info				
<b>Communications:</b> Required communications medium for data sharing with other agencies: (if applicable)						
<b>From agency</b>	<b>To agency</b>	<b>data flow</b>	<b>Medium</b>	<b>Existing?</b>	<b>Future (year) mm/yyyy</b>	<b>Check Date with Project Schedule</b>
SURPRISE	ADOT\MCDOT	video images	Fiber	Yes		
SURPRISE	ADOT\MCDOT	Sign Control	Fiber	Yes		



<u>Arterial ITS applications</u>	Relevant Applications (ENTER: Yes or No)	<u>Applicable ITS User Services Addressed</u> <a href="http://www.iteris.com/itsarch/html/user/userserv.htm">http://www.iteris.com/itsarch/html/user/userserv.htm</a>	<u>Applicable ITS Market Packages</u> <a href="http://www.iteris.com/itsarch/html/mp/mpindex.htm">http://www.iteris.com/itsarch/html/mp/mpindex.htm</a>
1. Traffic Management	Yes	1.6 Traffic Control	ATMS01, ATMS03
2. Transit Operations Support	No		
3. Interagency Data Sharing and Control	No		
4. Integrated Traveler Information	No		
5. Archived Data Management	No		
6. Incident Management	Yes	1.7 Incident Management	ATMS08
7. Freeway-Arterial	No		

#### D. Project Budget

- (1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed \$1 million per program year per agency.
- (2) Joint projects that involve 3 or more agencies may exceed \$1m in federal cost. Federal cost of each agency's component will not be counted against the \$1m limit.
- (3) There is no limit on the number of projects that may be submitted by an agency, but each project requires the 30 percent local cost match
- (4) For multijurisdictional projects, the federal and local shares of each partnering agency must be shown below.

	Federal Cost	Local Match (min 30%)	Total Cost
Lead Agency	\$1,000,000.00	\$1,500,000.00	\$2,500,000.00
Partnering Agency#1			\$0.00
Partnering Agency#2			\$0.00
Partnering Agency#3			\$0.00
Total	\$1,000,000.00	\$1,500,000.00	\$2,500,000.00
Cost percentage	40.0%	60.0%	

Note: Each participating agency should provide at least 30% local match for its share of the total cost

#### E. Project Schedule

The following project milestones and schedules are based on a typical project procurement process. Please select applicable milestones. Some ITS projects may follow an abbreviated process. ENTER estimated time for such a process

<b>Standard Project Milestones</b>	<b>Default Schedule for Process</b>	<b>Applicable Milestones (ENTER - Yes OR No)</b>	<b>Estimated Time to Milestone (ENTER #Months)</b>	<b>Estimated Date (Enter&gt; mm/yyyy)</b>
Apply for ADOT project number				Nov-2011
Receipt of ADOT project number	Jan-2012	Yes	2	Jan-2012
Initial DCR	Feb-2012	Yes	4	Feb-2012
Final DCR	Mar-2012	Yes	5	Mar-2012
30% Preliminary Plans, Cost Estimate and Report	May-2012	Yes	7	May-2012
60% Preliminary Plans, Cost Estimate and Report	Jul-2012	Yes	9	Jul-2012
Final Preliminary Plans, Cost Estimate and Report	Sep-2012	Yes	11	Oct-2012
Environmental Clearance	Jul-2012	Yes	9	Aug-2012
Utility Clearance	Aug-2012	Yes	10	Aug-2012
Right-of-Way Clearance	May-2012	Yes	10	Sep-2012
Approval of IGA	Nov-2012	Yes	14	Jan-2013
Obligation authority of Federal funds	Dec-2012	Yes	15	Jan-2013
Advertised Date	Feb-2013	Yes	18	Apr-2013
Final Deployment	Aug-2013	Yes	24	Oct-2013

#### **F. System Maintenance and Operations**

Current staff resources available for ITS operations at the local agency (FTEs)	2
Additional staff resources required for fully utilizing features added by project (FTEs)	none
Estimated current annual ITS operations & maintenance budget	\$20,000
Estimated additional annual operations & maintenance funds required for features added by project	none
Estimated DATE from when required additional O&M funds will be available	Jul-2011

**Other comments:**

**G. Systems Engineering Analysis Requirement**

**Commitment to address the federal requirement for Systems Engineering Analysis:**

Agency's intent to follow the process described in the 'V' diagram (See Appendix A of Arterial ITS Plan) during the project development process

The project sponsor or lead agency intends to incorporate the Systems Engineering Analysis in the scope of work for the project's Design Concept Report. The Systems Engineering Analysis will be carried out based on the document Systems Engineering for ITS published by FHWA in January 2007. A guidelines document prepared by FHWA (AZ office) and MAG dated August 2006 is also available (both are posted at the MAG website).